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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,401	12/03/2001	Estill Thone Hall JR.	PU010277	4280

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EXAMINER
DUONG, TAI V

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 03/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/006,401	HALL ET AL.	
	Examiner	Art Unit	
	TAI DUONG	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feature "the illumination source has an array of field emission display points for receiving a first input on a first side of a vacuum cavity and a corresponding array of resonant microcavity anodes on a second side of the vacuum cavity" of claim 16, the feature "red, green and blue input sources " of claims 18 and 21, and the feature "the illumination source receives a plurality of inputs simultaneously on a cathode of a first side of a vacuum cavity having no deflection coils and a corresponding array of resonant microcavity anodes on a second side of the vacuum cavity" of claim 19 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 19-21 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose how to make the combined resonant microcavity anode cathode ray tube and how to operate the tube. It is unclear of which first side

of the cavity having no deflection coil the cathode is located. What type of inputs does the cathode receive simultaneously ? What will happen after the cathode received the plurality of inputs simultaneously?

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 7 are incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the cooperative relationship between the RMAs and the LCOS devices. How can the LCOS devices emit an image because the LCOS devices (passive devices) cannot emit light by themselves, as is well-known in the art ?

Claim 7, 16 and 19 are incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the combiner and the projection lens (claim 7), the projection lens (claims 16 and 19), the polarizing

beam splitters, the combiner and the projection lens (claims 17, 18, 20 and 21). Without these elements, the light valve projection system cannot be operative as intended.

Claims 12 and 14 contains the trademark/trade name COLORSELECT. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe color polarization filters and, accordingly, the identification/description is indefinite. The remaining claims are also rejected since they depend on the indefinite claims.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobsen et al'919 cited by Applicant in view WO 01/72048 (WO'048) and Kurematsu et al.

Jacobsen et al disclose in Figs. 14 and 15 an illumination source similar to that of claim 19 and claim 16, respectively (col. 16, lines 3-41; col. 17, lines 7-18). Further. Jacobsen et al disclose that for projection devices, the three colors can be produced by three independent resonant microcavities or by producing an array of microcavities (col. 20, lines 57-62). Kurematsu et al disclose in Fig. 7 that it was known to employ red, green and blue light sources for illuminating three LC light valves (col. 5, lines 35-44). The WO'048 discloses that it was known to employ LCOS devices (p.p. 1-2). Thus, it would have been obvious to a person of ordinary skill in the art in view of Kurematsu et al and WO'048 to employ three illumination sources (red, green, blue) of the types shown in Figs. 14 and 15 of Jacobsen in combination with LCOS device for obtaining a full color display device with high resolution and compact, as compared with TFT-LCD.

Claims 1 and 7 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claims 2-6 and 8-15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 1 and 7 would be allowable over the prior art of record because none of the prior art discloses or suggest a projection system having the combination of a plurality of RMAs as the light sources, a plurality of LCOS device receiving input light from the RMAs and reflecting light

from the RMAs to a plurality of polarizing beam splitters which redirect reflecting light to the means for combining for projecting the combined image.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gagnon discloses a full color projection system comprising one light source, LCLVs with quarter wave plates, optical path compensator, polarizing beam splitters and a combiner.

Any inquiry concerning this communication should be directed to Tai Duong at telephone number 703 308-4873.

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TECHNOLOGY CENTER 2800

TVD

03/03